UCRTRAC Accumulative Research Summary
Section A: Irrigation Water Use Efficiency Including Utilization of Effluent Water
Project 7

Title: Evaluation of Water Conservation Surfactants on Two Warm-Season Grasses in Southern California.

Objective: To evaluate the effectiveness of surfactant treatments, in terms of improved turfgrass performance, when applied on bermudagrass and zoysiagrass grown in Riverside, CA and irrigated from 3 June to 3 Nov. 1998 at either 100%, 80%, or 60% ET-crop/distribution uniformity (DU) (≈ 91%, 71%, and 51% ET_o, respectively).

Location: A specially constructed irrigation plot located at the UCR Turfgrass Field Research Facility. Twelve independently-operated 20.0- x 20.0-ft irrigation cells defined main plots, which were split into two 10.0- x 20.0-ft subplots. One subplot was planted to Arizona common bermudagrass and the second subplot was planted to El Toro zoysiagrass. Each subplot was divided into eight 5.0- x 5.0-ft sub-subplots, which were used to evaluate seven different surfactant treatments plus an untreated check.

Duration: 5 months

Funding Source: Service Chemicals LTD. (A United Kingdom-Based Company)

Findings:

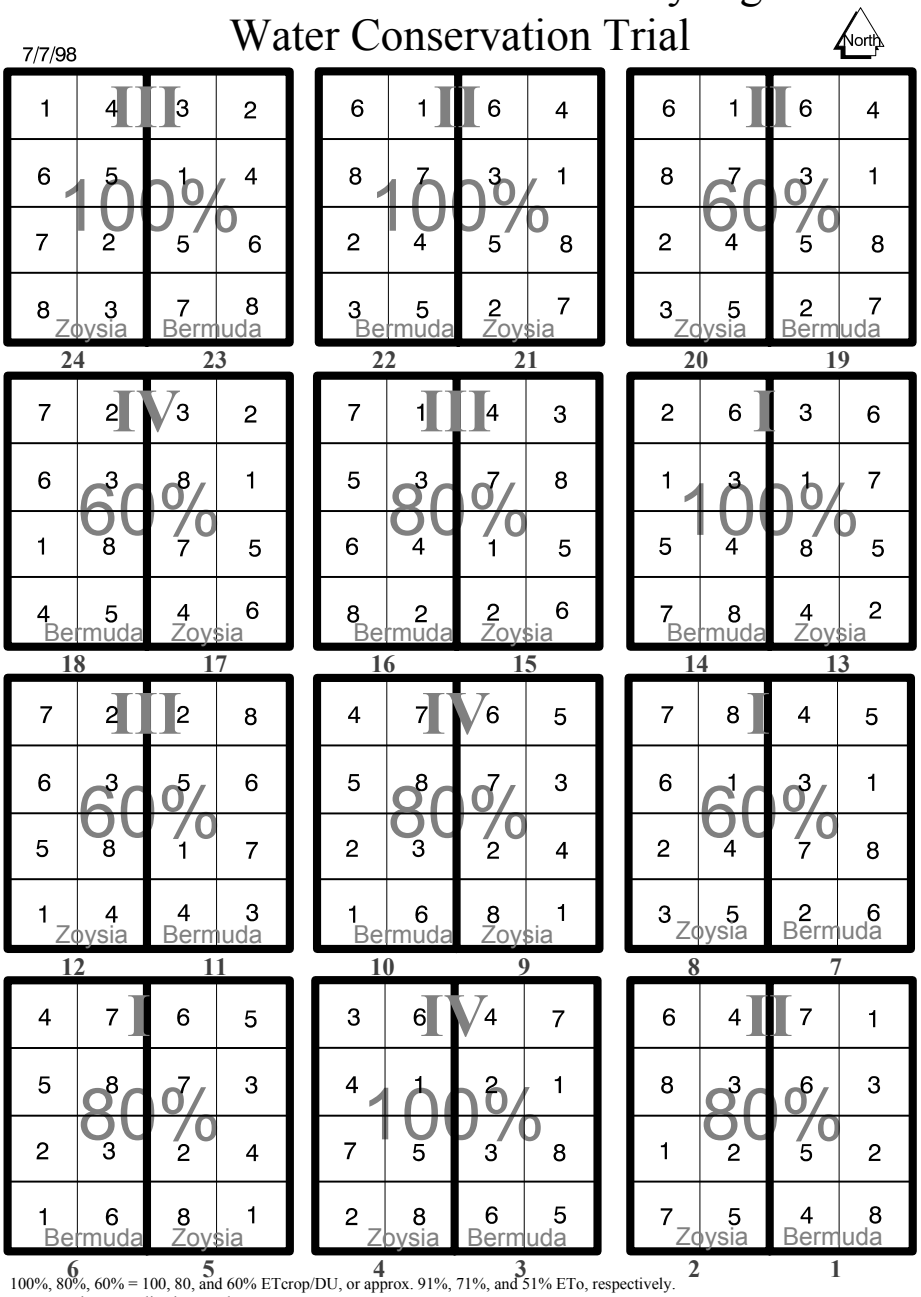
- Irrigation treatments and species (vs. surfactant treatments) had the greatest significant effect on visual turfgrass quality ratings, visual turfgrass color ratings, percent leaves rolled and wilted, and percent leaves brown and fired. Zoysiagrass visual quality and color were significantly higher than bermudagrass while zoysiagrass had significantly more percent leaves rolled and wilted and percent leaves brown and fired. There was a significant positive, improvement for visual turfgrass quality ratings, percent leaves rolled and wilted, and percent leaves brown and fired when surfactant treatments were compared, as a group, to the check treatment.

- As might be expected, irrigation treatments significantly affected the volumetric soil water content from the 9.0- to 36.0-inch depths.

Status: A 5-month study was completed. Information associated with this study was presented at the UCR Turfgrass Research Conference and Field Day. A Final Report was prepared in April 1999.

Service Chemicals Bermuda/Zoysiagrass Water Conservation Trial

7/7/98



100%, 80%, 60% = 100, 80, and 60% ETcrop/DU, or approx. 91%, 71%, and 51% ETo, respectively.
I,II,III,IV denote replication numbers.
Bermuda and Zoysia refer to bermudagrass and zoysiagrass subplots, respectively.
1,2,3,4,5,6,7,8 denote sub-sub plot product treatments where 1=untreated, 2= GMB/A/02/LO, 3=GMB/A/02/IA, 4=GMB/A/02/I8, 5=GMB/A/02/I9, 6=GMB/A/02/L1, 7=GMB/A/02/L3, 8=GMB/A/02/L7.